What Is Claimed Is:

1. A filter processing device for detected values of common rail pressure, comprising:

a common rail for accumulating a high-pressure fuel;

a supply pump synchronously driven by an engine and pumping the fuel to said common rail in constant pumping cycles;

a pressure sensor for detecting the actual common rail pressure; and

computation means for reading the detected values of the common rail pressure obtained by said pressure sensor within crank angle periods which are at least not more than half of said pumping cycle, averaging, the respective values detected within one pumping cycle preceding each of the reading time, and using the value thus obtained as a common rail pressure after averaging processing, which is a representative value of the actual common rail pressure.

2. A common rail fuel injection control device comprising:

means for determining a target common rail pressure based on the actual engine operation state; and

pump pumping quantity control means for computing the difference between the target common rail pressure and the actual common rail pressure and feedback controlling the pumping quantity of a supply pump based on the difference so that the actual common rail pressure coincides with the target common rail pressure, wherein

said pump pumping quantity control means uses the values of said common rail pressure after averaging processing that were obtained by the filter processing device for detected values of common rail pressure of claim 1, as the representative values of actual common rail pressure.

3. The common rail fuel injection control device according to claim 2, wherein:

said pump pumping quantity control means uses, as the representative values of actual common rail pressure, the values of said common rail pressure after averaging processing only when the engine revolution speed is not less than a prescribed value, and directly uses the detected values that were detected by said pressure sensor for each prescribed time period when the engine revolution speed is less than the prescribed value.